

ern Sierras, shows that it varies in color from a brilliant blue green through bronze green to cupreous. In the middle Sierras and north, it is more apt to be of a bluish green and somewhat constant. It is generally to be found in the flowers of a species of wild white buckwheat, *Eriogonum*.

Chrysobothris dentipes Germ.

This species Dr. Horn had not seen from California. It is, however, very common in the northern counties of the State where it may be seen about the dead trunks and larger limbs of the western yellow pine, *Pinus ponderosa* Dougl.

Chrysobothris silvania Fall.

This species, first found by L. E. Ricksecker in northern Sonoma County, has been since found by F. W. Nunenmacher in Del Norte County, California, and by J. C. Bridwell and W. J. Chamberlin on Mt. Jefferson, Oregon.

New North American Gall Midges (Dipt.)

By E. P. FELT, Albany, New York.

This paper includes descriptions of recently characterized forms, one of the most interesting being the *Retinodiplosis* reared from the cones of Bald Cypress. In this connection it appears desirable to place on record, the capture by Dr. W. L. McAtee, April 12, 1914, on Plummer's Island, Maryland, of additional specimens of *Neocatocha marilandica* Felt, a species first taken by this collector in the same locality almost exactly seven years earlier. The female has been described and the male is still unknown.

Asynapta marilandica n. sp.

The species described below runs in our key to *A. cerasi* Felt, from which it may be easily separated by the pulvilli being distinctly shorter than the claws. The male was received from Dr. E. W. Nelson, labeled Plummer's Island, Maryland, August 17, 1912, Dr. W. L. McAtee, collector.

♂. Length 1.5 mm. Antennae longer than the body, thickly long-haired, yellowish brown; 23 segments, the fifth with a stem three-fourths the length of the subcylindric basal enlargement, which latter has a length about one-half greater than its diameter; terminal seg-

ment reduced, irregular. Palpi: first segment subquadrate, the second with a length three times its diameter, the third longer and stouter than the second, the fourth one-half longer than the third, irregular, somewhat capitate.

Mesonotum light yellowish brown. Scutellum, postscutellum and abdomen mostly light yellowish. Halteres yellowish white. Coxae pale yellowish. Legs mostly light straw; claws moderately stout, strongly curved, unidentate, the pulvilli shorter than the claws.

Genitalia, yellowish brown; basal clasp segment rather long, stout; terminal clasp segment moderately stout, recurved apically; dorsal plate divided, the lobes moderately broad, broadly rounded and sparsely setose apically; ventral plate shorter, the lobes narrow, obliquely truncate apically.

Type: Cecid. 1660.

Dasyneura lupini n. sp.

The galls from which this species was reared were collected by Mr. L. H. Weld at Buena Vista Park, San Francisco, California, August 25, 1915. They occurred on a perennial species of *Lupinus* which was shrubby at the base, much branched, 2 to 4 ft. high and perhaps *Lupinus propinquus*. The galls were kept outdoors by Mr. Weld and a lot forwarded to the writer early the following May from which specimens of both sexes were obtained May 10. The male of this species runs in our key to *D. meliloti* Felt, from which it may be separated by differences in the genitalia, especially in the shape of the lobes of the dorsal plate. The female of this Lupine species is remarkable for the very long lobes of the ovipositor.

Gall. Irregularly fusiform, presumably stem gall, light green when fresh, fleshy, quite firm, polythalamous, the interior fibrous and inhabited by a number of larvae; length, 1.5 to 2.5 cm.; diameter, 1 to 1.5 cm.

Cocoon. Oval, length about 2 mm., rather firm in texture and light yellowish.

♂. Length, 1.75 mm. Antennae about as long as the body, thickly haired, reddish brown; 16 or 17 segments, the fifth with a stem three-fourths the length of the cylindrical basal enlargement, which latter has a length about one-half greater than its diameter and a moderately thick whorl of long, stout setae; terminal segment slightly produced, narrowly oval, with a length about twice its diameter. Palpi: first segment irregularly quadrate, the second a little longer, more slender, the third one-half longer than the second, more slender, the fourth one-half longer and more slender than the third.

Mesonotum dark red, the submedian lines sparsely haired. Scutellum and postscutellum dark reddish brown. Wings hyaline, the third vein nearly straight. Coxae dark brown; legs mostly a brownish straw, the tarsi somewhat darker; claws long, unusually slender, the pulvilli about as long as the claws.

Abdomen sparsely haired, the sclerites dark brown, the incisures and pleurae fuscous yellowish. Genitalia fuscous yellowish; basal clasp segment stout, tapering; terminal clasp segment short, tapering; dorsal plate deeply and narrowly incised, the lobes tapering slightly to a narrowly rounded apex; ventral plate moderately long, broad, deeply and roundly emarginate, the lobes slender, tapering and sparsely setose apically.

♀. Length, 2.5 mm. Antennae extending to the base of the abdomen, sparsely haired, dark reddish brown; 17 subsessile segments, the fifth with a length three-fourths greater than its diameter; terminal segment reduced, narrowly oval. Palpi: first segment irregularly oval, the second subquadrate, the third one-half longer than the second, more slender, the fourth one-half longer than the third, more slender.

Mesonotum reddish brown or dark brown, the submedian lines sparsely haired. Scutellum and postscutellum dark reddish. Halteres mostly yellowish. Coxae dull yellowish; legs mostly dark brown.

Abdomen sparsely haired, dark brown, the incisures and pleurae reddish orange. Ovipositor as long as the abdomen, the terminal lobes sparsely haired, narrow, with a length about six times the width.

Type. Cecid. a2723.

***Asphondylia shepherdiae* n. sp.**

The midges described below were reared from a bud gall on *Shepherdia canadensis*, collected June 27, 1914, by Prof. E. Bethel, at Lake Eldora, Colorado. The species runs in our key to *A. sambuci* Felt, from which it is most easily distinguished by the pale yellowish legs. It is easily separated from the western *A. diplaci* Felt by the distinctly narrower wings.

Gall. This is a globose, thin-walled, yellowish green, bud gall, variably spotted with reddish, and having a diameter of 4 to 5 mm.

Exuvium. Length, 4 mm., cephalic horns and the dorsum of the thorax mostly yellowish, the remainder of the body dark brown, the terminal segment being lighter. The dorsum of the abdominal segments with a transverse row near the posterior third, of moderately long, stout spines, and from the middle to the anterior third, an irregular series of three or four rows of smaller, similar spines; terminal

segment with two latero-posterior diverging, triangular spines and an irregular arc extending from one of these groups to the other and composed of approximately nine smaller, though stout spines, the basal portion of the terminal segment with an irregular series of similar though somewhat smaller spines.

♂. Length, 3 mm. Antennae nearly as long as the body, sparsely haired, dark brown; 14 segments, the third with a length five times its diameter, the terminal segment somewhat reduced, with a length four times its diameter. Palpi: the first segment quadrate, the second with a length more than twice that of the first, the third more slender and one-half longer than the second. Mesonotum slaty brown. Scutellum and postscutellum brownish red. Halteres fuscous yellowish. Coxae dark brown; legs mostly pale yellowish; claws stout, strongly curved, the pulvilli as long as the claws.

Abdomen dark brown. Genitalia: basal clasp segment short, very broad; terminal clasp segment short, stout; dorsal plate divided, the lobes triangular, the inner margins broadly rounded and setose; ventral plate suborbicular, deeply and roundly emarginate posteriorly, the lobes narrowly rounded apically.

♀. Length, 3 mm. Antennae nearly as long as the body, sparsely haired, dark brown; 14 segments, the third with a length six times its diameter; terminal segment with a length three-fourths its diameter. Palpi: first segment subquadrate, the second with a length about twice that of the first, the third more slender, with a length about one-fourth greater than the third.

Mesonotum slaty brown, the submedian lines sparsely haired. Scutellum and postscutellum reddish brown. Halteres yellowish white. Coxae dull reddish, the legs mostly fuscous yellowish; claws stout, strongly curved.

Abdomen dark reddish brown. Ovipositor about as long as the abdomen.

Type. Cecid. a2550.

Retinodiplosis taxodii n. sp.

A number of midges tentatively referred to this genus were reared April 27, 1916, by Mr. George W. Barber, Charleston, Missouri, from cones of Bald Cypress, *Taxodium distichum*. The food habits, as well as certain structural characteristics serve to distinguish this species from related forms. This gall was also collected November 14, 1910, by Dr. W. L. McAtee at Mud Lake, Arkansas, though no adults were reared.

Gall. This is an irregular, thick-walled, somewhat spongy, usually monothalamous gall with a diameter of 5 to 7 mm., which occurs

tightly packed in Cypress cones. These galls are evidently modified seeds and the shape is determined to a great extent by the growth of those adjacent.

Larva. Length, 3 mm., moderately stout, yellowish white or yellowish orange. Head short, broad, the antennae short, tapering, apparently unarticulate; breastbone distinct, brown, with anterior and posterior, somewhat crescentic prolongations, the former bidentate, the teeth being widely separated and sublateral; skin coarsely shagreened, posterior extremity broadly rounded.

Pupa. Length, 4 mm., stout, mostly reddish orange, the thoracic horns slender, tapering, light brown, with variable fuscous markings, the antennal horns short, stout, obtuse, the antennae hardly extending to the base of the abdomen, the wings to the third abdominal segment, and the leg to the fourth abdominal segment, the last three in nearly mature pupae, black; posterior extremity obscurely lobed, rounded.

♂. Length 2 mm. Antennae a little longer than the body, rather thickly haired, fuscous yellowish; 14 segments, the fifth having the stems with a length one and one-half and two and one-half times their diameters, respectively; the distal enlargement with a length one-half greater than its diameter and a distinct constriction near the basal third; circumfili moderately stout, the loops numerous, the distal filum having 16 to 20. Palpi: first segment subquadrate, the second one-half longer, more slender, the third as long as the second, more slender, the fourth one-half longer than the third, somewhat dilated.

Mesonotum fuscous yellowish, the submedian lines yellowish. Scutellum and postscutellum reddish orange. Halteres whitish transparent, yellowish apically. Coxae, femora and tibiae mostly pale yellowish, the tarsi with the most of the second segment, the third and fourth pinkish, the remainder fuscous yellowish; claws moderately slender, somewhat curved, the pulvilli about half the length of the claws.

Abdomen with deeper red, the lateral margins rather thickly clothed with short, fuscous hairs. Genitalia fuscous; basal clasp segment stout; terminal clasp segment moderately stout, long, strongly curved; dorsal plate deeply and triangularly emarginate, the lobes somewhat divergent, broadly and irregularly rounded; ventral plate broad, somewhat spatulate, broadly and roundly emarginate, both thickly setose.

♀. Length 4 mm. Antennae extending to the fourth abdominal segment, sparsely haired, reddish; 14 segments, the fifth with a stem one-fourth the length of the cylindrical basal enlargement, which latter has a length four times its diameter, the circumfili at the basal third and apically, stout and rather high; terminal segment somewhat produced, with a length five times its diameter and a knob-like process apically. Palpi: first segment roundly subquadrate, the second with a length nearly twice the first, the third a little shorter than the second, more

slender, the fourth almost twice the length of the third, more slender.

Mesonotum fuscous yellowish, the submedian lines yellowish-orange. Scutellum and postscutellum reddish orange, the former somewhat fuscous. Halteres mostly whitish transparent, pale orange distally. Legs mostly a pale yellowish orange.

Abdomen deep reddish orange, irregularly fuscous basally; ovipositor yellowish, short, the lobes with a length about three times the width, narrowly rounded apically and thickly setose.

Type Cecid. 2722.

This species presents in both sexes, many characters in common with typical species of *Retinodiplosis* and is noteworthy because the larva has no chitinized tubercles supporting the posterior spiracles. This latter is evidently a modification resulting from environmental necessities and would hardly be expected to appear in a species inhabiting seeds and not occurring more or less submerged in a pitchy medium.

A new *Cratomus* (Hym.).

By T. D. A. COCKERELL, Boulder, Colorado.

The remarkable Pteromalid genus *Cratomus* was founded by Dalman in 1820 for *Cynips megacephala* of Fabricius, which occurs in northern and central Europe. Two years later Dalman wrote the name *Caratomus*, the original form having been, we may suppose, due to a misprint or slip of the pen. It is a question which to maintain; but Ashmead, in his Classification of Chalcid Flies, returned to the original spelling, *Cratomus*.

A second species of the genus was described from Britain in 1833 by Walker; and in 1888 Ashmead described another, *C. leucophthalmus*, from a specimen collected by Fletcher on a window in Ottawa, Canada. In May of this year I found a specimen on a window in my house in Boulder, Colorado, and as it is evidently distinct from the Canadian species, it may be described as follows:

***Cratomus cancellatus* n. sp.**

♂. Length about 2.5 mm., robust, with the extraordinary head characteristic of the genus. It differs from *C. leucophthalmus* Ashm. as follows: